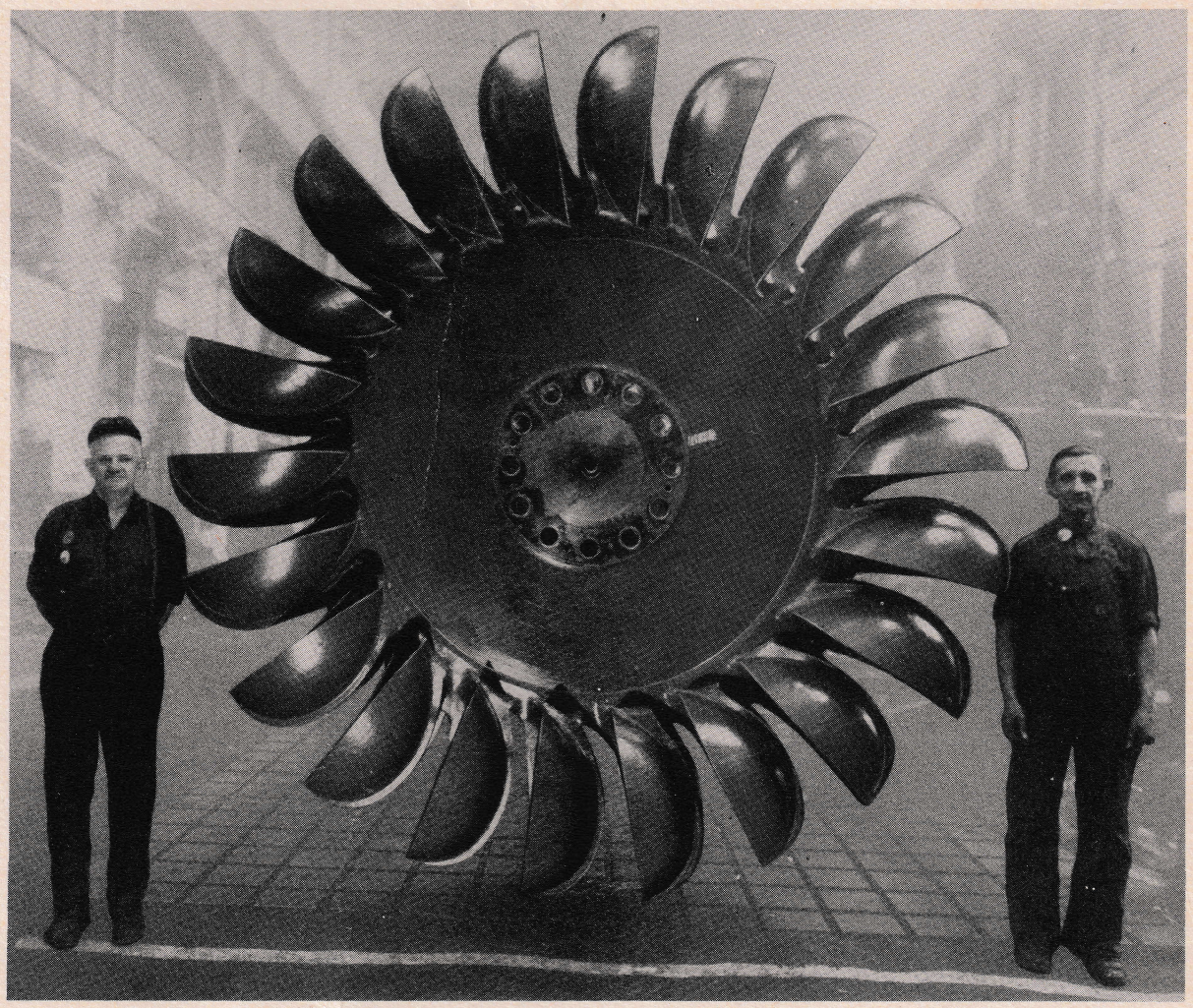
Turbine Topics

Vol. 1 No. 9 Issued For and By the Employees of S. Morgan Smith Co. Dec., 1943



SOLID-CAST IMPULSE RUNNER
VOLCAN PLANT—CHILE, S. A.

Impulse Turbines
Installed in the Chilean Andes

SEE FEATURE ARTICLE
PAGE 2

HAROLD M. SEITZ, Hydraulic Engineer

Harold M. Seitz, the author of the article below, is a graduate of Johns Hopkins University, Class of 1923, in mechanical engineering. He started to work for the S. Morgan Smith Company July 9, 1923, and has been continuously employed here since that date—over twenty years of service. Throughout the office Harold is known as a thorough, conscientious and competent engineer, one who attacks all problems from a scientific standpoint. Give Harold the Head and Horsepower for a proposed development and with one twist of his super rotary duplex quadralog slide rule, he can give you the size, type, R.P.M., cavitation limit, discharge, price and blood type of the Smith Turbine to do the job.

Harold started work here in the Design Dept. under Harold Syvertsen. In January 1926, he was promoted to the Engineering Dept. where he designed runners and worked up engineering data for the Sales and Estimating Departments. In March 1929, Harold, along with Phil Aldinger and George Hochwalt, was transferred to the Sales Dept. where all three are still employed.

Due to his expert knowledge of Impulse Turbines, Mr. Seitz has made two extended trips to South American countries during one of which he visited the site of the Volcan plant where the turbines shown in the following pictures are to be installed, and also had an opportunity to improve on his text book Spanish.

IMPULSE TURBINES INSTALLED IN THE CHIEAN ANDES

By Harold M. Seitz

Throughout the history of hydro-electric development, both manufacturers and operating utilities like to point with pride to their special "pet." It is usually the largest in PHYSICAL size or the largest in CAPACITY or the HIGHEST IN OPERATING HEAD.

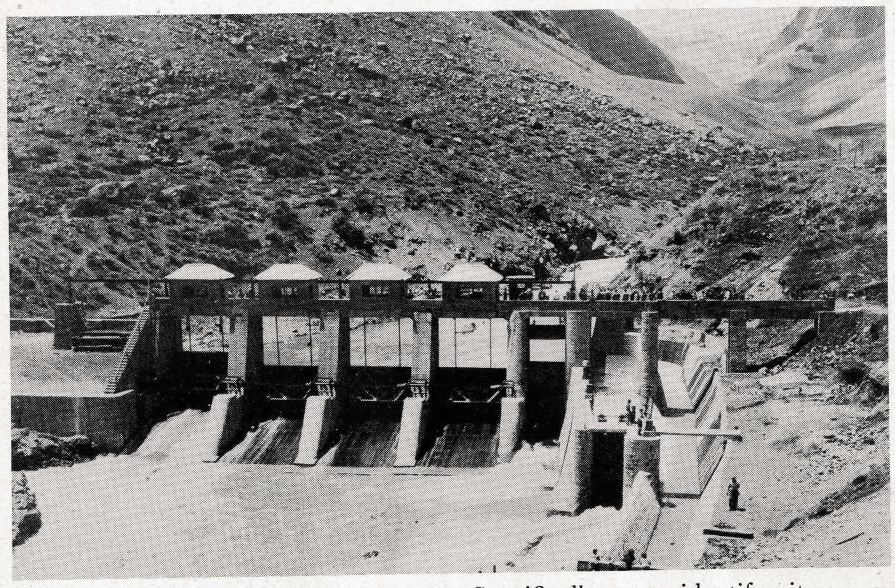
Therefore, it behooves us of the S. Morgan Smith company to pause for a moment and take cognizance of the fact that just recently we attained another new high—that the impulse turbine units recently assembled in our shops contained the *LARGEST* solid-cast impulse runners manufactured to date in the United States.

Our company, in pioneering the building of solid-cast, or one-piece, impulse runners in this country, broke through the shackles of precedent from the very beginning of our advent into this particular hydraulic turbine field.

The advantages of the solid-cast runner are threefold, i.e., superior hydraulic performance, lower first cost and less maintenance trouble, all constituting progress objectives. In the higher specific speed range of impulse turbines, (N_s = 4 to 10), which covers nearly all installations in this particular field, the solid-cast runner, at the same efficiency, will outspeed the bolted-on bucket runner. Or, if running at the same speed, it will produce higher operating efficiencies. This superior hydraulic performance of the solid-cast runner is accomplished by the use of a greater number of buckets than can be installed on the loose bucket runner, plus greatly improved bucket design made possible by many scientific tests in our laboratory.

The lower cost is readily apparent,—the accurate and costly machining, dowelling, fitting and locking of each individual bucket or pair of buckets to its disc and to each other on the loose bucket runner are entirely eliminated. With the inherently higher speed of the solid-cast runner, the lower cost of the runner itself, plus the lower cost of the higher speed generator, makes a lower overall cost of the complete impulse-generator unit.

The one original objection to the solid-cast runner was the possibility of one or two buckets breaking, thereby losing the complete runner, while in the loose bucket type these could be readily replaced. True, in a few exceptional cases some buckets may crack or break. Consider, however, that they have already given many hours of service and due mostly to sand erosion they or any loose bucket would naturally become weakened and crack sometime. If of the loose bucket type, the operator then replaces the broken bucket or buckets. But since the replacement bucket is new and, therefore, heavier, he must also replace a like number of buckets on the opposite side of the runner to balance it. Also, the frequent changing of loose buckets enlarges the bolt and dowel pin holes, making it nec-



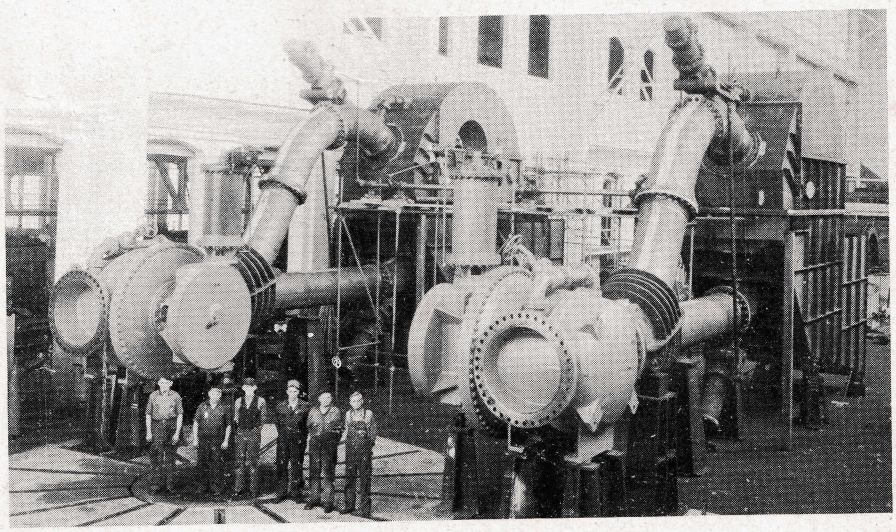
essary to re-ream the holes and machine new bolts and dowels to fit.

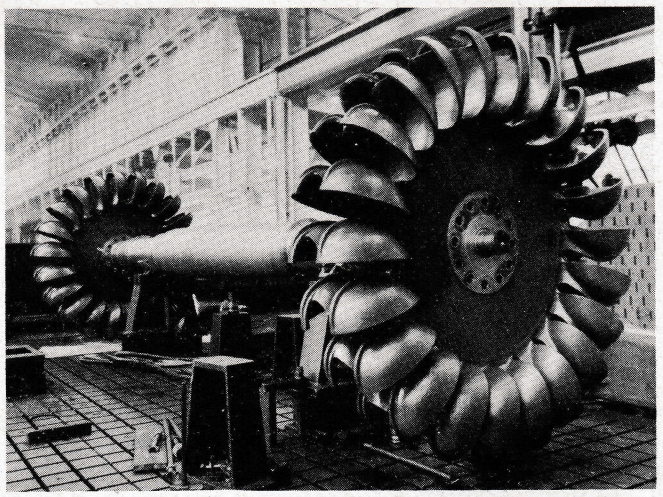
One mining company in Colombia operates an older unit of the loose bucket type and the buckets when new weigh approximately 23 lbs. They lose weight more or less evenly from the erosive action of sand in the water and when it is reduced about 10% all the buckets are replaced with new ones. The runner is correctly balanced again, but the cost is unnecessarily high since approximately three solid-cast runners can be furnished for the cost of one complete loose bucket runner, plus one set of spare buckets; in effect, three runners for the price of two.

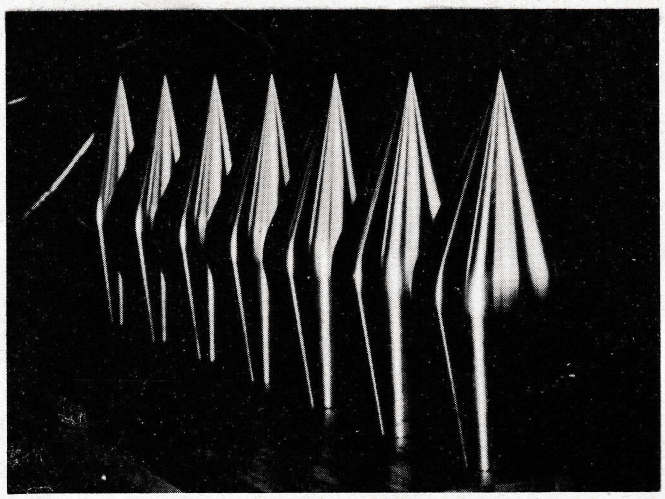
The impulse turbine recently shipped was manufactured by our company for Cia Chilena De Electricidad, Ltda., of Chile, S. A., and will be installed in their newly built Volcan powerhouse. It will operate under 575.6 feet net effective head and at a 50-cycle speed of 231 R.P.M. will produce 17,750 horsepower at the generator shaft, driving a General Electric 14,450 KVA horizontal generator. The shop views on these pages show what appear to be two separate impulse turbines; however, both turbines constitute a part of one single operating unit. Specifically, we identify it as a double overhung, double jet, impulse unit, i.e., a single generator with extended shaft from both sides, with an overhung single impulse runner attached to each end of the shaft, and two power jets for each runner.

Although not shown on these shop erection views, our company designed and built the two 20″ diameter, self-aligning, oil-lubricated bearings, located one on each side of the generator, between the runner and the generator rotor, also the one-piece turbine and generator shaft. The governor, manufactured by the Woodward Governor company, will be located between the two runners and arranged to operate all four jet deflectors simultaneously. The power needles will be operated separately but interconnected with the main governor mechanism in such a manner as to obtain successful operation of the two component parts.

The governor controlling the action of the jet deflectors and the power needles must maintain synchronous speed for all loads. When loads are rejected, the unit will start to overspeed, but the sensitive governor will immediately detect the first increment of speed rise and quickly deflect the water jets from the runner buckets. The oil-operated servo-motors located on the upper power nozzles of each unit and controlled through their individual pilot valves will then close the needles to the desired new load position at such a rate as to prevent serious water hammer in the penstock. It is evident that the governor, no matter how mechanically perfect, cannot hold the synchronous speed during this load rejection period. If the unit were connected to an isolated load, enough flywheel effect, or WR square, would have been installed in the rotating parts which upon full load rejection would limit the actual speed rise to the order of 20 to 30%. However, as this unit is tied in to a much







larger system, the flywheel effect of the entire system will act as a brake against the tendency of this one unit to raise the system speed or, in effect, its frequency. The actual speed rise of the unit is, therefore, negligible if the flywheel effect of the entire system is well designed. For imposed loads, the jet deflectors will play no part and the power needles must be opened at such a rate as will accelerate the water in the penstock slowly to avoid vacuum conditions which might cause it to collapse. The turbine speed in this case will tend to decrease, and enough flywheel effect must be installed in the unit and in the entire system to hold this tendency to a negligible value.

The lower power needles are mechanically connected to the oil pressure operated servo-motors at the upper power nozzles and can be disconnected if it is desired to operate only one nozzle for each runner. For light loads up to one-half capacity, higher efficiencies can be obtained with only one jet per runner in operation.

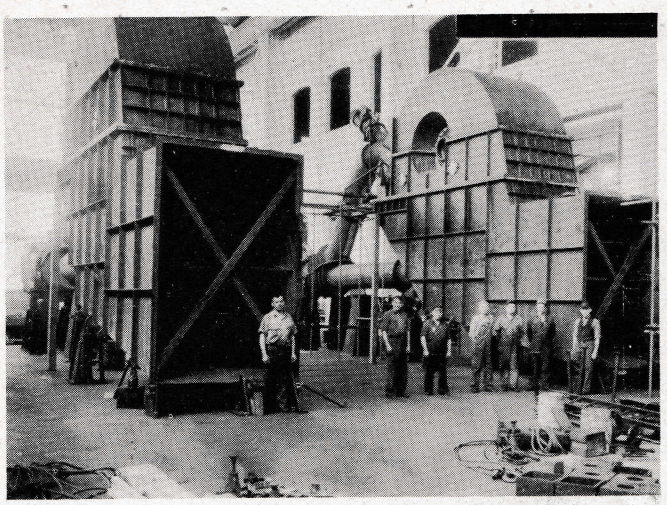
The question may be raised why a single vertical Francis turbine was not installed. The speed of a suitable Francis unit would be 600 R.P.M. and the overall first cost of turbine and generator would have been lower. The answer is *SAND,* and where sand, plus mica and silica in suspension cannot be completely filtered or settled out, the resulting repairs on Francis type units will exceed the first cost savings. The impulse unit is, of course, not immune to such erosive action, but is of considerably more rugged construction, has fewer operating parts and, therefore, can advantageously invade the Francis turbine field for such installations within the head range of 200 to 900 feet.

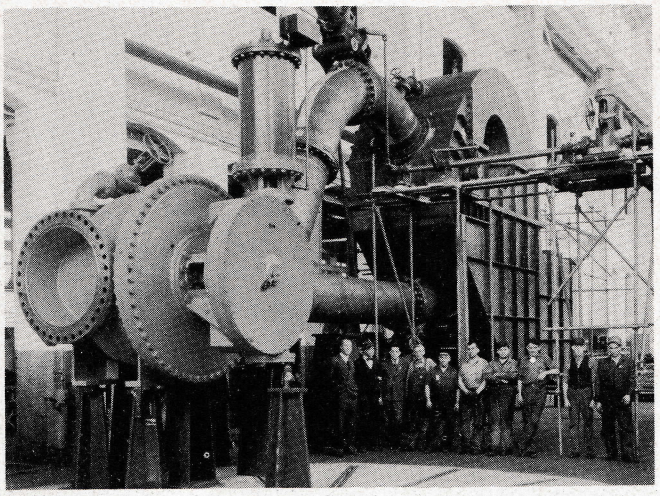
The two main inlet valves, one for each unit, and installed horizontally as shown by the shop assembly views, are of our own rotovalve type, hydraulically operated, using oil pressure from the governor system. In the fully open position each valve has a clear, unrestricted internal diameter of 42 inches. The closing, or area shut-off, characteristic of these valves is such that for the same time of complete closure, lower penstock pressure rises are obtained as compared to follower ring type gate valves or any other type of valve which might otherwise be suitable for such turbine inlet service. These rotovalves, because of their self-flushing design, are especially suited for penstocks carrying sand or other sediment in the water.

The turbine casings, wheel pit liners, branch inlet piping, and wye sections are of welded steel construction, adequately ribbed where necessary to meet imposed stresses. This type of construction makes a lighter completed unit and is far superior to the use of cast iron for the wheel housings.

The unit shown in these shop views will be installed in the Chilean Andes at an elevation of about 5,000 ft. above sea level. It will develop power sorely needed for Santiago and vicinity, as the commercial needs for electricity and power are exceeding the available supply.

The view of the dam, or intake, for this unit, furnished us through the courtesy of Ebasco International corporation, shows the type of construction generally required for mountainous projects of this kind. The dam is essentially a diversion structure, designed to divert the required water to the penstock intake. It was built during one of the heaviest snowfalls in the history of that region, retarding construction work and making the supply of materials to the dam site extremely difficult. The large spillway sections are needed to pass the flood waters at the peak of the snow-melt from the surrounding high mountains. Another important feature of this dam is the elaborate but necessary system used to filter or flush away from the penstock intake the sand and





silt that are carried down with the snow to the stream-bed and hence to the dam. The water from the forebay first enters a stilling basin where the heavier sand and sediment are collected and sluiced out. It is then conducted over a regulated spillway to an open channel leading to the closed penstock. Located at the bottom of the open channel are sluicing compartments at different grade levels to further sluice the sediment from the water. Even with this carefully constructed sluicing arrangement, lighter abrasive silt will be carried on through the penstock and eventually to the turbines. Cases exist where the fine particles at great velocity send runners to the repair shop after as little as 6 to 8 months' operation.

A closed concrete-lined penstock approximately 6 miles long will conduct the water from the open channel at the diversion dam to an open reservoir near the powerhouse. A considerable part of this conduit had to be tunneled through rock. A steel penstock 1200 ft. long will then conduct the water from the reservoir to the turbines.

We should feel doubly proud of our personal stake in helping to build not only this unit with the *Largest* solid-cast impulse runners yet manufactured in the United States, but also this class of industrial machinery, to which there is none superior. It is of first importance to the war effort and when peace comes it will continue to serve as an ever faithful servant, in conserving natural resources, and in supplying its share of primary power for untold time and labor-saving conveniences.

THE SHOP QUIZ — By ED. Rogers — SALVAGE

No.	*Question*	*Answer*	*Score*
1.	Our company during the past year has turned in an approximate total of.....pounds of scrap of all types. (a) 2,650,000 lbs. (b) 1,505,000 lbs. (c) 500 tons	( )	( )
2.	The largest amount of scrap material turned in is..... (a) Paper (b) Iron and Steel (c) Brass	( )	( )
3.	During the past year the amount of paper collected and turned in by the S.M.S. Co. has been approximately..... (a) 12,000 lbs. (b) 4 tons (c) 25,000 lbs.	( )	( )
4.	For each 100 pounds of iron and steel scrap turned in the company has been averaging.....pounds of paper. (a) ¼ lb. (b) 1 lb. (c) 5 lbs.	( )	( )
5.	During the past 12 months more aluminum has been turned in than brass. (a) True (b) False	( )	( )
6.	Non-ferrous metals are those which do not contain iron. (a) True (b) False	( )	( )
7.	All our scrap is collected here at the plant and loaded into railroad cars for shipment direct to the consumer. (a) True (b) False	( )	( )
8.	In the first 18 months of the Salvage drive York has collected a total tonnage amounting to..... (a) 10,000 (b) 29,500 (c) 61,000	( )	( )
9.	Aluminum may be separated from brass chips by use of an electrical magnet. (a) True (b) False	( )	( )
10.	If Carbon Tool Steel gives off a bright stream of sparks when ground on an emery wheel then High Speed Tool Steel should give off a brighter stream of sparks because it is harder. (a) True (b) False	( )	( )

ANSWERS

Score 10 for each correct answer.

1.—a 2.—b 3.—c 4.—b 5.—b 6.—a 7.—b 8.—c 9.—b 10.—b

OLD-TIMERS

Man of the Month

JAMES S. T. STRAYER

Jim Strayer — the man about whom we could write a book, but because of limitations of space we are able to give you only facts. The sideline stories will be left to Harry and Ferd.

Born on August 2, 1873, Jim entered his first job at the age of 19, when he became a salesman for the Troup Manufacturing company, Dayton, Ohio. From 1898 until 1900, he worked at P. H. Glatfelter's paper mill in Spring Grove. Jim entered our employ as a sweeper in the machine shop. Now as he begins his forty-fourth year of service he is the Traffic Manager of the company.

Two of Jim's sons are also S.M.S. employees: Paul, in the Design Dept., and James, priorities specialist. His brother, Kurvin, is the General Machine Shop Foreman.

Jim is a member of the Junior Order of American Mechanics, York #115, secretary of the Traffic club of York, secretary and treasurer of the York Country club and a charter member and financial secretary of the S. Morgan Smith Company Beneficial asociation.

CHARLES H. ZECH

It seems as though the Royal Fire company is well represented in the Pattern Shop. One of this month's "Old-Timers" is a fireman too. Charlie has been a very active member for 15 years, answering alarms as well as making his home at the engine house. At the present time he is a trustee of the company.

Charlie was born on August 10, 1877. During his days in the local schools, he was a football player. He learned his patternmaker's trade at the Baugher Manufacturing company, and worked in the pattern shops of the Eyster Weiser company and the Brummill company until October 31, 1900, when he entered our employ.

Charlie was one of the first men to occupy a bench in the new Pattern Shop. Several years later he was transferred to the Pattern Storage where he served well for about 28 years. Now he is back at his bench in the Pattern Shop.

Because of his frequent demonstrations at the Malta Temple, Charlie has established his reputation as the best square-dancer in these parts.

F. X. BIEVENOUR

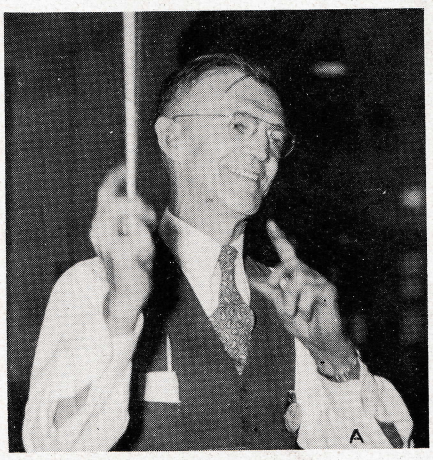
Francis "Mike" Bievenour has been helping the brass section of the S. Morgan Smith company band hold its own for the last several months. He plays in the Dover band and used to live in that vicinity, but in order "to save gas and tires," Mike moved to York. Now the boys are trying to make a "city-slicker" out of him.

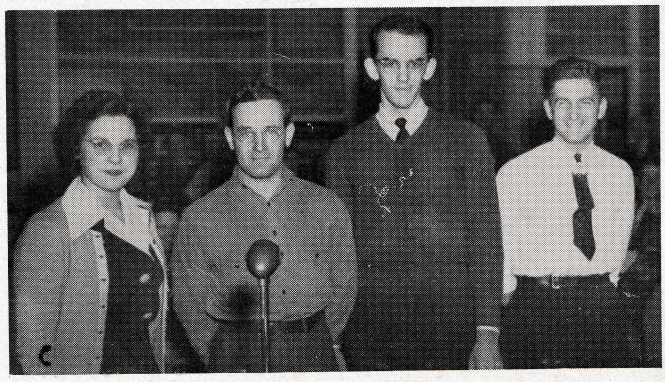
In Dept. A he is well known as "The Whittler," because while doing large jobs on his boring mill, he fills in his idle minutes with whittling abstract objects or puzzles.

On November 14 of this year Mike began his twenty-first year as an S.M.S. machinist. He learned his trade at the Spangler Manufacturing company, and then worked as a machinist at the Flinchbaugh Manufacturing company, Steacy Schmidt Manufacturing company, the York Corporation, and in 1923 entered our employ.

His only child, Michael, was working here as a helper in Dept. A from 1936 until February 13, 1941, when he entered the Army.

Noon Time Activities on November 3





A—Maestro Al Stumpf, leading the band through a racy rendition of the "Old Grey Mare." B—The brass and percussion sections of the band in full swing. Ray Hershner is on the other end of that cornet to the extreme right. The "little man who wasn't there" behind that baritone is Mike Bievenour, "Man of the Month." Why doesn't Ray Dietz learn to blow his horn instead of blowing down his music stand? C—Soloists on November 3: Sara Craley, Billy Sterner, Rodney Bond and John Markle. D—A quartet composed of Vivian Smith, Betty Becker, Ev Pierce and Ray Hess, surprising the audience with their interpretation of "Home on the Range." E—A blend of voices from the shop and office—the "S. Morgan Smith Patriots" in action.

SHIPMATES UNITED TO MAN 20MM. GUN EXHIBIT

Two Navy combat veterans who served aboard the same fighting destroyer for two years before she was sunk in the South Pacific, again have teamed up—this time to man an exhibit of the Navy's powerful 20 mm. anti-aircraft gun which is being displayed at war plants in this area.

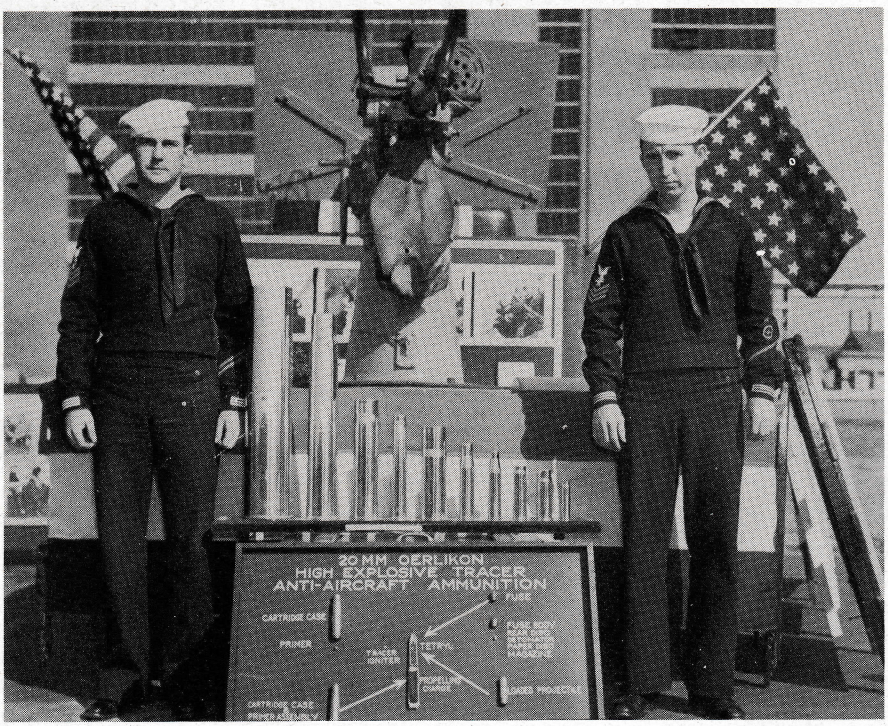
The two Navy men visited our shop on Friday, November 26, and demonstrated the gun and told their experiences to the day force at 12:30 noon and to the night force at 5:30 p.m.

They are, left to right, Roy J. Allen, Gunner's Mate 1/c, U.S.N., and John R. McIsaac, Fire Controlman 1/c, U.S.N., who have seen action in both the North Atlantic and South Pacific theatres of war. Their last battle was in Kula Gulf where their gallant ship was sunk on July 13, at 2:30 in the morning during her 13th trip to the Gulf. She was the 13th ship in formation. McIsaac and Allen have been superstitious ever since.

The exhibit is mounted in a Navy truck and is visiting war plants producing for the Navy. The demonstration is staged for the purpose of acquainting the men and women of the production lines with the need for more and better production, and it impresses upon them that their work is important in the war effort.

The weapon has been used by the Navy with marked success in the war against the Japs in the Pacific. Both men have participated in battles where the weapon blasted the Japanese from the sky. Their ship, the USS Gwin, did convoy duty in the Atlantic just prior to and following the outbreak of war. On one such trip she escorted the first AEF to Ireland.

Their action in the South Pacific started with the Tokyo raid, as part of the Hornet's task force.



Official U. S. Navy Photograph

McIsaac and Allen call up Julia Lehr to help them demonstrate the gun. What ship crew wouldn't want a gunner like her?

Later they took part in the invasion of Munda, where their ship knocked down four enemy planes with 20 mm. and 40 mm. anti-aircraft guns during an attack by 27 torpedo planes. They ran many convoys in to Munda and participated in one hour-long bombardment on Munda Point itself where the Japs were strongly entrenched. McIsaac

THE DAY GANG at the termination of the exhibit, showing their appreciation of the fine demonstration that Fire Controlman McIsaac and Gunner's Mate Allen staged.

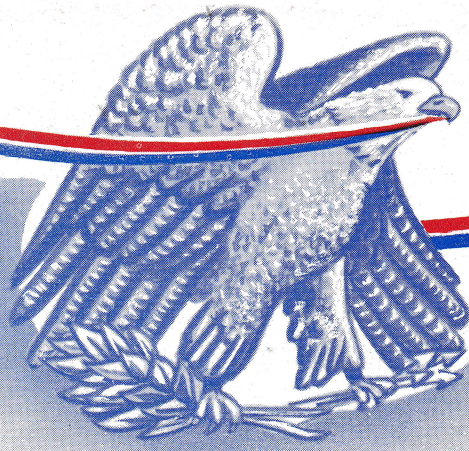
A GROUP OF RAPT LISTENERS at the 5:30 exhibit. Note Chet Reisinger, of the Maritime service, in the center background. He is a former employee who was visiting the shop during his furlough. In Chet's case, the cameraman was unable to follow the policy of obtaining a picture of our visiting servicemen for use in Up and Down the Aisle.

ANOTHER VIEW OF THE NIGHT GANG watching McIsaac demonstrate while Allen explains the mechanism of the 20 mm. gun.

describes the shelling as so heavy that the projectiles seemed to form a bridge between ships and shore.

They just missed the Battle of Midway, but got plenty of action in the memorable Savo island encounter off Guadalcanal. The ship in front of them blew up, and they were so close behind that they ran right over the sunken ship just as her depth charges exploded underneath them. The Gwin was partially crippled and put temporarily out of action by this explosion in addition to two torpedo hits.

Gunner's Mate Allen is from Flint, Michigan, and has been in the Navy for more than seven of his 26 years. He has served on the Gwin since she was commissioned in 1941. Fire Controlman McIsaac, 24 years old, was born in Boston, Massachusetts, and joined the Navy six and one-half years ago. He has served aboard four ships: the USS Northampton, the USS Oklahoma, the USS Monssen and the USS Gwin.



HONOR ROLL

For Employees of S. Morgan Smith Co.

Who Have Joined

THE ARMED FORCES

R. ADREON
C. ANSTINE
J. AVIS
W. BAILEY
W. BAIR
E. BAKER
M. BIEVENOUR
S. CRONE
G. DRESCHER
C. HOKE
R. KETTERMAN
H. LEIBENKNECHT
C. MEISENHELTER
R. MEISENHELDER
W. MUSSER
I. McHENRY
C. RAIFSNIDER
K. REEVER
H. STRAYER
J. STROBECK
G. WECKER
C. WILT, JR.
F. KINLEY
R. McWILLIAMS
G. WINAND
E. CUSTER
G. KOHLER
L. LIGHTNER
J. McHENRY
R. MYERS
W. SENFT
J. SHAFFER
J. DELLINGER
A. WELTY
J. ROWE
R. SPRENKLE
W. TEST
H. ELICKER
W. BENNINGTON
K. HEINDEL
J. McSHERRY
D. REID
N. VanHORN
L. FISHEL
R. SPONSLER
J. BOECKEL
J. BOLLINGER
A. BORING
M. GLADFELTER
R. RAUCH
C. RUDACILLE
R. KRESSLER
D. SNYDER
P. SMITH
G. EARLY
S. RAUHAUSER
J. YOUNG
H. HESS
E. GEIST
C. REISINGER
R. GROSS
R. HESS
C. MILLER
W. SMITH
C. HAMME
R. SHEFFER
R. WOLF
L. KRALL
W. MYERS

KEEP IN CONTACT—WRITE TO THEM OFTEN

SEE PERSONNEL OFFICE FOR ADDRESSES

★ ★ ★

Merry Christmas

TO ALL OUR EMPLOYEES AND
THOSE IN THE ARMED SERVICES

ON TO VICTORY

V — MAIL

North Africa, November 8.

Well, here I am away over here in North Africa. I can't tell you exactly where. In fact there isn't much I can say about anything. I received your birthday greeting card and I want to take this chance of thanking you for it. I did not receive the October issue of "Turbine Topics." I hope I soon get it because I am looking forward to it. Thanks for everything, especially the V-notes. Good luck and keep plugging.

"RUDY" (Calvin Rudacille).

New York City, November 2.

I have just arrived at a new station after successful completion of my machinist mate's course at Dearborn, Mich. I am now scheduled for a new course of study taking up salvage work. I am at Pier 88, N. Y. C. In case you don't know, that is where the Normandie turned over on its side. The work of uprighting it is now completed and they are ready to tow it to dry dock. I never will get a chance to work on her. The reason this school was established was to give divers experience. That is what the course is chiefly.

I received a fireman first class at Dearborn which is what the top 40% received.

Last night I was on liberty and saw Times Square return to the Great White Way. It was the first time I saw it lit up. I was also in the famous Stage Door Canteen.

Liberty here is very good. You may have three nights out of four from 4:30 till 7:30 next morning. We arrived on Friday and start school Wednesday. We stay here for about four months. We live on the pier and eat at pier 92, four blocks away.

I want to thank all of you for those victory fund checks that come in so very handy every month. I also want you to know that I appreciate the shop news, especially at Dearborn where I did not receive much news due to the lack of time to write letters and when you don't write you don't get any letters.

I received my last check the very day I left Dearborn and it came in very handy on my short leave.

Well, I guess I have said all the things I wanted to, so I shall write soon again. Now I will have the time.

Yours truly,

RICHARD RAUCH.

King City, Calif., October 23.

I am sorry that I haven't corresponded more often with you and the shop. The work here is so closely scheduled that I don't often find time to write. When you have gone to ground school in the morning and fly two or three hours in the afternoon you are ready to go to bed, when you finish for the day. We get up at five forty-five and finish at seven thirty. That includes your evening meal.

My flying here is just about finished. I passed my army and school check this week. It sure was a great relief to have them over with. I expect to be at my next field the first part of November. Just now we are a bit behind on our flying. We are going to fly on Sunday and try to make it up. This flying program is tough, but I get a kick out of it.

We had a bit of tough luck this week. We lost three of our boys. I hope that is the last. You have to be wide awake all the time up there. With about a hundred planes in the air, you can't take any chances.

I want to thank you and the boys at the shop for the V notes and also the copies of the shop magazine. I want you to know they are both very much appreciated.

Yours very truly,

H. JACK McHENRY.

Kearns, Utah, November 12.

You're sitting down I hope. Well, hold tight; here comes a letter from Don Snyder. Remember . . . Cost Dept.?

Quite a lot of water has gone over those water wheels since last spring and the time when I was head man—in fact, the only man—in that little back room of the Cost Dept. However, I still can hear the punch, punch of Betty Foust and the grumble of the tabulator when Martha runs the checks.

Since that time I have covered a little territory. I took basic training in Miami Beach, Fla., took a five months' course at California Thyers, Inc., in Santa Monica, Calif., and have spent the last few days here in Kearns, Utah.

Of my training in Florida I have lots of memories, but it's the experiences I had in California that I'll never forget.

School went too fast for me. I enjoyed every bit of it, from learning the basic facts of aeronautics to taxying a plane. We had a course of fourteen phases. Airplane Structures, Electricity, Hydraulics, Induction and Engines are just a few of these. California Thyers is a civilian school taken over by the Army. All of our instructors were civilians too. We are supposed to graduate as potential crew chiefs. A crew chief always is the grey-headed member of the crew for reasons easily seen.

Of course school didn't occupy all my time not with Hollywood only eight miles away. I ate my share of sandwiches and did my share of staring at the movie stars at the Hollywood Canteen. There were so many interesting things to see and do that it would be impossible for me to tell you in so short a letter. More than anything, I enjoyed just bicycling and scouting around the hills and mountains, taking in the breath-taking sights with both my eyes and a camera.

We came here to Kearns, Utah, last week for ten days' small arms training. After I finish qualifying on the Carbine I'll again be on the move. I am scheduled to go to factory school from here to specialize in one type of plane. This will probably be on the west coast again since that is the center of the aircraft industry.

Here in Kearns everything is different. We live in barracks and things are strictly G.I. The climate is much different and a lot colder. The mountain ranges, which seem at arms' length, are rugged and snow capped. Salt Lake City is just a few miles and makes a nice place to spend a Sunday. I ran into Bill Bennington the other day here in camp. We had a good time talking over old times. Right now Bill is in the hospital, but for what I haven't found out yet.

Again I want to thank you and all concerned for those V-notes that appear every month at the exact moment. All the fellows I know keep telling me how

V ◇ ◇ ◇ = MAIL

lucky I am to have worked for a company like S. Morgan Smith's. Just knowing that you folks are thinking of us brings as much enjoyment to me as the money. Just yesterday the October "Turbine Topics" arrived and I immediately devoured every word and picture. I can't express myself any better than to say it's SWELL to see all those pictures of familiar faces and to read what's going on up and down the aisle. Lots of credit and the best of luck to you and your staff.

I hope you noticed my new address. I'll send you my next one as soon as I get settled again. I promise to do better after this and not make you wait half a year to hear from me.

Please give my regards to all in the Cost Dept. Tell them to "get on the ball" for I may be around on an inspection tour soon. I hope. I hope. Thank you again.

Sincerely,
DON SNYDER.

Lakeland, Fla., October 31.

I received the birthday card, V-note and another issue of "Turbine Topics," and I want to thank you very much for them. I would have written you sooner, but we are working seven days a week until 11 o'clock at night, and I am getting back in my letter writing.

We have off today which is Sunday, October 31. But this will be the last day off for some time to come. Well, I will close, thanking you again for what you have done for me.

Yours truly,
CHARLES WILT.

Fort Belvoir, Va., October 25.

Having a little time this afternoon apart from my work here at the office, I want to write you and thank the S.M.S. Co. for the gracious gifts of $5 bills I have been receiving each and every month. My thanks and feelings are extended both to the men and to the company for sponsoring so fine an idea and plan.

I am still stationed here at Fort Belvoir, Va., and am serving as a clerk general here in the personnel division of the ERTC headquarters. Last September 25 I was promoted to the grade of Technician 5th grade. My job is to check and audit reports sent in by various companies each day pertaining to the status and change of every man in their organization. Since I started this job about 7 months ago I have been typing at various times until now I get additional jobs of typing up payrolls for the companies.

I also want to thank you for the issues of "Turbine Topics" which I get each month. I look forward to the news of the plant as it goes forward. Several of my buddies are much interested in the kind of work and equipment you make and get quite a kick out of reading the "Turbine Topics."

Best of wishes to all the fellows in the Plate Shop.

Yours sincerely,
CPL. WALDEMAR H. SENFT.

Camp Edwards, Mass., November 6.

A week-end of detail (guard duty) can prove an asset, the proof of which is in the very fact that I am now writing this letter. Spare time is still pretty much of a problem and after deducting a little time for pleasure we find that the rest is just general Army routine, so I suppose the best way of saying it is that I'm sorry we don't have more time of our own in which intended correspondence could be taken care of without having to apologize for being much too late with a letter. In plain words I'm sorry for not having written sooner.

After seven months in the Army I know much about things that I never even thought existed while living the mild form of life as a civilian. You can be sure that no one who hasn't actually shared a part of this kind of life can as fully realize the appreciation of life in peace time as a civilian, and it is my opinion that this very fact will have a beneficial effect on the future of American lives after the storm clouds have again cleared away.

Our career as a unit in this camp is very close to an end as all indications point, and before too long we may be in active duty effecting a part in the hasty defeat of the foe, and return to the peaceful things everyone so eagerly awaits. Of course our destination is unknown and until all the guesses and bets give way to actual fact, the suspense continues. Whatever this destination may be though it will certainly be paving the way to a destination plainly labeled "Home."

I wish to thank you and the people at the shop for making it possible to receive those much looked for and well used tokens of appreciation to your former workers. It seems that those money orders always arrive at just the right time too and prove to be life savers in some cases. Much luck to your shop magazine and the further advancement of this concern.

Yours,
JOHN E. BOLLINGER.

Southwest Pacific Area, October 15.

I am writing to thank you for your latest money order which I received a few days ago. I would have liked a letter with it but I was glad to know you still remember us.

As for what we are doing, well, we're bombing hell out of the few remaining Jap bases on this island and also hitting them on another nearby island. They raid us nearly every night, but not very strong. You probably can read most of it in the news.

It's very hot here in these jungles, the only way I keep cool is to think of that cool air-conditioning in the Cost Dept. I'll never forget how Harry Lehr and Jammie used to keep adjusting the temperature. Ha, ha.

Besides our bombing missions there's not much to do except to listen to radio Tokio. She called us murderers the other night and said they were sending 100 dive bombers to wipe us out, but we're still waiting. The food's good and we get some Johnny Walker now and then so life is not too bad.

I hope everything is normal with you back home. I hope to see you all again some day, although there are a few each day who never will. Thanks again for the money and write if you find time. It's hell to be in a slit trench during a raid with no mail to read.

Always,
BOB MEISENHELDER.

UP and DOWN the AISLE

Even though they worked on Thanksgiving Day, the girls of the Shop Office had something to be thankful for during their 15-minute lunch period. Ed Shanabrough served them each a huge slice of a delicious angel's food cake—and he made it himself! Those of you who have never tasted any products of Ed's sessions in the kitchen are really missing sumpin'!

* * *

Bob Sheffer, formerly a night man in the Tool Room gallery, visited the Tool Room gang and friends throughout the shop on a ten-day leave after his graduation from the U. S. Naval Training station at Great Lakes, Ill. Bob was honor man of his company. He was elected the outstanding man by fellow bluejackets, and on the completion of his basic training, has been recommended for general detail as a fireman 2/c. He returned to Great Lakes for a new assignment on December 4. Looks to us as if Bob is buckling down to his job in the Navy just as he did in his work here at S.M.S., and we wish him the best of luck.

* * *

We extend our sincere sympathy to Betty L. Becker, Production Office, whose mother died on November 23 at 10:45 p.m. Funeral services were conducted from her home, 1716 West Philadelphia Street, on Saturday, November 27.

Pvt. Austin Boring was snapped on November 20 when he visited the shop. He has been stationed at Camp Edwards, Mass., ever since he joined the service on March 27. For almost two years Austin had been a time clerk in various departments in the shop. The boys were sure glad to see him again.

* * *

Last month Mary Feiser, Cost Dept., had something to be thankful for. Even though it was her husband's first month in the service, he had two weekend passes and was able to come home to visit her. He is an apprentice seaman in the merchant marines, and is stationed at Sheepshead Bay, N. Y.

* * *

The local lodge 1400, I.A. of M., has been sending cigarettes to the various theatres of war through the Raleigh cigarette company. In November they received five responses from soldiers "somewhere in Italy," thanking them for the cigarettes they had received through the union's thoughtful gesture.

At a recent meeting of union members they agreed that all employees who were inducted up until Christmas Day would receive a Christmas gift from the union.

Christmas packages from the company as a whole have been dispatched to the boys also. In this small way the company and the union hope to assure our servicemen that we folks back home do realize and appreciate the sacrifices they are making for us.

* * *

"A party for the victors!" was the promise Burwell B. Smith, company vice-president, made to employees at the initiation of the September bond drive. He was held to that promise by the Engineering and Inspection departments, the two groups which invested the greatest percentage of their September income in bonds. The Engineering Dept. paced the Main Office and the entire plant with an 82.7 percentage, a total of $2,100. The leaders in the shop and runners-up in the plant competition, the Inspection Dept., invested $881.25 and had a 53.4 percentage.

Dept. A was fourth in the percentage column, but led the plant in the total amount of bonds purchased —$3,318! Dept. C was a close second with $3,081.25. In second place in the Main Office was the Cost Dept., with 39 per cent, and $800; in the shop it was the Navy Assembly floor, with 39.5 per cent and $2,812.50.

On November 6 at 7:30 p.m. the promised party was given at Bierman's restaurant. The boys who attended made no comment other than—"If a party like that is the reward for the victors of the January bond drive, we'll be at the top again!"

* * *

Pvt. Charlie Hamme of the U.S. Marine corps was an apprentice machinist and an S. M. S. employee for two years before he was inducted on August 20. Charlie was a welcome sight to his old gang when he visited us on November 24.

* * *

Have you ever heard of a person going on a hay ride and coming home with a sprained ankle? Unfortunately that is what happened to Betty Weimer, Auditor's office. She went on a hay ride, the wagon was hit by a speeding automobile, and as a result, her ankle was sprained very

seriously. She is getting along fine with her crutches, and although the doctor says she will not be able to use her leg for about six weeks, nevertheless, that is not keeping her from being right on the job here at Smith's. Betty says with crutches she doesn't get around much anymore, but that doesn't matter, since "Butch" is out in the South Pacific anyway.

* * *

Art Palmer, Navy, and Art Hartman, Plate Shop, have become the horseshoe league champions. All the finals were not able to be completed because of unfavorable weather conditions and the knee injury of Dick Myers who was on the opposing team with George Dietz. As soon as the weather is suitable the boys plan to start an interdepartmental league. All interested persons are requested to hand in their names to Harold Miller, Store Room, as soon as possible, so he can set up a schedule and get rolling the plans for a bigger league.

* * *

A subject of much admiration is the seashell necklace which Romaine Shaffer, Cost Dept., has received from her fiancé, who is stationed in the Southwest Pacific. It is made of yellow and blue shells which he himself gathered from beaches and made into a beautiful necklace in about three weeks.

* * *

On November 30 at 8 a.m. Oreda Nancy Bupp, the wife of M. Walter Bupp, died at their home, Hellam R.D. 1. She was buried Friday, December 3, at 2 p.m. To Walter, foreman of the Plate Shop, we send our sincere sympathy.

* * *

Carolyn Nusbaum, Cost Dept., has received the news that her husband, who is an Army engineer, has arrived safely in India.

* * *

Two weeks of absence usually means sickness or vacation, but this time it meant a new arrival. For two weeks Pat Deardorff of the Yard gang was the chef at his house, because he had become the proud papa of his fourth son. Glen David, weighing 7¾ pounds, was born on November 18. That long ago, and still the boys haven't gotten their cigars!

* * *

Maurice Gardner made the local papers when he shot a "cat" on November 3 in Newberry township near York Haven. About dusk he noticed an animal running among several rocky hills about 100 feet away. He shot twice, but thinking that his aim had not been accurate, didn't bother to look for the "cat." Later he went to this spot to pick up a rabbit and a pheasant, and lying on a rock he saw the "cat"—a gray fox.

John Fry got his limit of five rabbits with five (??) shells on the first day of hunting season.

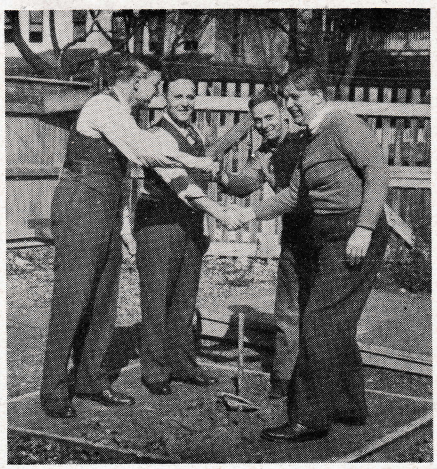
Harry "Jake" Raber didn't do too badly with the box of shells he won from Harold Heuter. Jake had four rabbits, six squirrels, two pheasants and one gray fox after a three day forage in the vicinity of Jefferson.

Raymond Miller had his full allotment for his two day hunting effort. Seven rabbits and two pheasants. But then these deputy game wardens know the hideouts.

Ed Bywaters got what he went after. He had one "coon" and three 'possums.

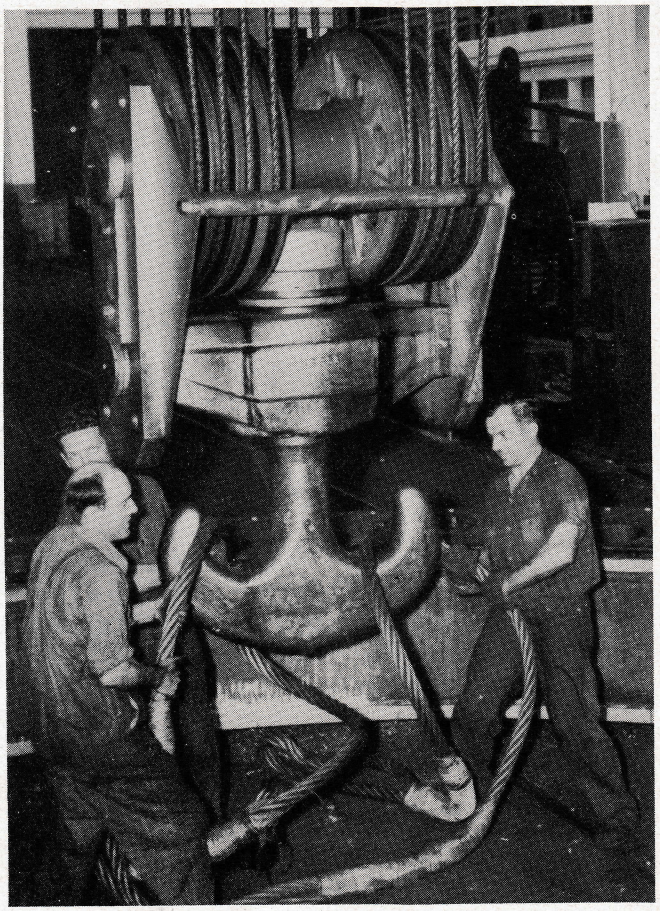
George King was on the hunt for three days. Net results were two pheasants and five rabbits. George had had plenty of training. He had hunted for three weeks for eight shells previous to the season's opening.

Here's pictorial evidence that Rush Zeigler, Weld Shop, was the first hunter in the shop to bring home a deer. Rush bagged this four-pointer in Cumberland county about 8:30 a.m. on his first day of hunting, November 29. The two shots he used to get it were equally divided between a tree and the deer. It weighed about 160 pounds before Rush began relieving the meat shortage of his friends. Now he has about 20 pounds for his own use. The skin was given to the government; Rush is keeping the horns. Included in the picture is his son.



Beauchamp E. Smith, President, and Burwell B. Smith, Vice-President, accepted a challenge to pitch horseshoes with some of the leading pitchers in the shop league on Thursday, November 4, at noon. B. E. Smith and Harold Miller, Store Room, were pitted against B. B. Smith and Art Hartman, Plate Shop. Burwell and Art defeated Harold and Beach in the first game, 31 to 26. A short game was also won by these two, with a score of 16 to 8. Pictured above to the left are the friendly "rivals"—before the fight. The center view shows B. E. Smith about to let go with a ringer (almost) and to the right Burwell tops it (well, anyway, it was in the box).

Charles Givens, Chauncey Slenker, Paul Kopp and Frank Popielaski discontinue for a few minutes their assembly work on the coal crusher in the background. For the benefit of the uninitiated, including the Roving Cameraman, the coal enters the crusher at top right, is pulverized by cast iron ten pin balls in the center, and when ground finely enough is blown out by a rotary fan contraption to the boilers via the top center opening.



A Never Failing Source of Interest to the Roving Cameraman is the huge hook on the 150 ton crane. Here he caught Willie Einsig, George Pepo and Eddie Beck about to rig a Bonneville top plate to turn it over.

CAMERAMAN . . . . .

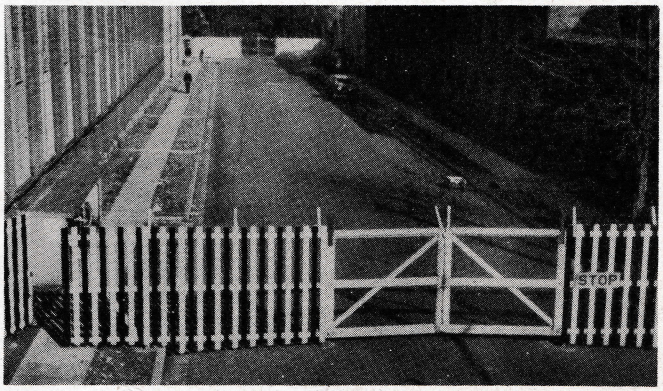
MARINE CHARLIE HAMME, former machinist apprentice, chinning with his old pals in Dept. C: Shorty Dellinger, Ray Aldinger, Harvey Neiman and Carl Beck.

DICK WOLF, former machinist apprentice, who left November 6 for Sampson, N. Y., to work for Uncle Sam's Navy. The above picture was taken at noon on November 3 when Dick dropped around to hear the band and chorus and say good-bye to his friends.

SGT. FRANK KINLEY dropped in November 6 while on furlough from Camp Shelby, Miss., and came in to say hello to us boys and girls. Frank was formerly employed in our Time Study Dept., and put in most of his time around Dept. B.

WHEN AUSTIN BORING VISITED US November 20 he found time to give his former workmates on Floor 3 & 4 a hand to hold down a large flywheel. The "workmates" are left to right, Paul Heidler, George Zech, Ray Miller and Wilbert Brenner.

FIRE CHIEF ED SHANABROUGH in his new private office. Ed is head of the ARP Fire Dept. and Roof Watchers around the shop. (No fair looking in any windows, Ed.)



SAY GOOD-BYE TO THE PARK STREET GATES, removed December 1 by permission of the Army Air corps, the city officials and the York Corporation to facilitate delivery of goods to our neighbors and our own plant.

Athletic Association

The following information is intended for those members of the Athletic association who are not quite certain who is the dues collector in their department:

Weld, Paul Stumpf; Plate Shop, Kenneth Shanabrough; Shop Office, Betty Becker; Dept. A, Vivian Becker; Dept. B, Hilda Knaub; Dept. C, June Kehoe; Navy, Mary Thompson; Store Room, Hilda Miller; Main Office, Vivian Smith; Floors 3 & 4, Helen Edman; Electric and Tool Room, Mary Jane Myers; Floor 1, Naomi Lindsay.

Martha Bender, secretary of the organization, has requested that each member attempt to get his dues to his collector by the twentieth of each month in order to facilitate the completion of monthly reports.

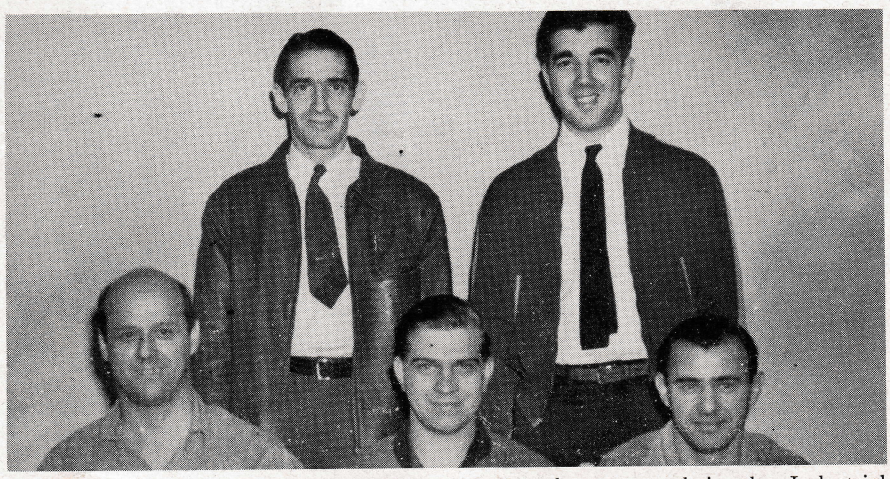
With the coaching of Russ Fetrow, Dept. A, and the managership of Don Thompson, Shop Office, the Athletic association hopes to whip up a mighty aggregation that will come out on top in the Community basketball league this winter.

If there are any basketball enthusiasts who have not already handed in their names to Russ or Don, they are urged to do so. There are now enough players for four teams in an interdepartmental league, but it is hoped that eight or more teams can be organized. A local church recreation floor has been secured for practice sessions. Wanted—more players!

We think the Athletic association should be congratulated for one of its deeds last month. Each of our men in the service was notified that he had been made a member of the organization, and that his dues would be paid in full until he was back in the shop with the old gang again. Through this medium the S.M.S. employees hope to show our fighting men that they are not forgotten in our plans for the future.

The S.M.S. Company Women's Team which is entered in the Women's Duck Pin league: left to right, Martha Bender, captain, Louise Auman, June Kehoe, Betty Foust and Julia Lehr. Dorcas Jacobs, formerly the substitute, has now taken Louise's place.

Our Team in the Century League, the "Valves": back row, left to right, George Rogers, Earl Smith, Harold Miller; front row, Vern Hoke, Martin Weaver, captain, and Don Hartman.



The "Turbines," the bowling team which has been entered in the Industrial league: back row, left to right, Millard Deardorff, captain, Dick Wolf, now in the Navy; front row, Harvey Trone, Dick Trimmer and Bob Flohr. George Bell, a former employee who is also on the team, was unable to be present when the picture was taken.

JANUARY BIRTHDAY GREETINGS

1—John Abel, Guard; Pvt. Stewart Rauhauser; and Lloyd Shaffer, Floor 1.
3—Richard Aubitz, A; Stewart Liephart, C; and Ralph Rawhauser, Estimating Dept.
4—Ruth Kern, Cost Dept.
5—Kent B. Seifried, B; and Herndon Taughinbaugh, A.
7—Luther Deardorff, Navy.
8—S/Sgt. Robert Adreon.
10—Howard Anderson, Guard.
11—Ed Carbaugh, Tool Design.
13—Mary Feiser, Cost Dept.
14—Russell Little, Asst. Traffic Manager.
15—Albert Bentzel, C; Martin D. Heffner, watchman; T. S. Norbom, Design Dept.; Estella Rehmeyer, Cost Dept.; and William Williams, Pattern Shop.
18—Ralph M. Fissel, electrician.
19—Pvt. Charles Anstine; William Firestone, Weld Shop Storeroom; George Foust, Estimating Dept.; C. C. Frey, treasurer of company; and Kenneth Weaver, A.
20—Clarence Alban, Navy; Annie Brunner, head of Stenographic Dept.; Wilbert Noss, Asst. Foreman, Pattern Shop; and Henry Wuerthner, watchman.
21—Pfc. Kenneth Reever and Jean Young, CM 3/c.
22—Arthur Bentzel, Pattern Shop.
23—Charles Axe, Plate Shop.
24—Paul Flohr, Floor 1.
25—George Bittle, Sergeant of the Guards; Raymond Hershner, Inspection Dept.; and Earl Wolf, Dept. A foreman.
26—Charles W. Baum, plumber; and Walter Rohrbaugh, Auditor's office.
27—John Godfrey, Floor 1; Leonard Klinefelter, C; and Harry Linebaugh, A.
28—David Bair, Plate Shop; F. X. Bievenour, A; and Chauncey Trimmer, Tool Design.
30—Naomi Lindsay, clerk Floor 1.
31—William Drescher, Tool Room; and Pfc. Paul Smith, Jr.

WELCOME! New Employees

Ray D. Paige, Shipping Gang; Florence R. Botterbusch, Time Study; June Koicuba, Blueprint Room; June Mason, Plate Shop clerk; Spurgeon Gingerich, Tool Room; Charles Jessop, Stores & Receiving; Joyce Meisenhelter, Main Office; J. Martin Saylor, guard; Paul J. Rees, Jr., Laboratory.

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GIVE
WAR
BONDS
The Present with a FUTURE